



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/049,627

04/16/2002

Ah Hwee Tan

P21834

7768

7055 7590 02/21/2008
GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

COUGHLAN, PETER D

ART UNIT

PAPER NUMBER

2129

NOTIFICATION DATE

DELIVERY MODE

02/21/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No. 10/049,627	Applicant(s) TAN ET AL.	
	Examiner PETER COUGHLAN	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,9-14,19-21,23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,9-14,19-21,23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This office action is in response to an AMENDMENT entered December 05, 2007 for the patent application 10/049627 filed on February 22, 2002.
2. All previous Office Actions are fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-4, 9-14, 19-21, 23-24 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are between the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted. How does the invention determine when to switch mode? How does the

invention determine know when a document is misrouted? How are these two functions of the invention linked together?

These claims must be amended or withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9, 13, 14, 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masand et al, in view of Mathias et al, in view of Kamel et al. (U. S. Patent 5251131, referred to as **Masand**; U. S. Patent 6480627, referred to as **Mathias**; U. S. Patent 5937037, referred to as **Kamel**)

Claim 1

Masand teaches a feature extractor that extracts a plurality of features from a document (**Masand**, abstract, 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.); a classifier that processes the document based on

the extracted features in a knowledge acquisition mode in which an association of a classification with each document is added incrementally to a knowledge base and in a document classification mode in which the classifier (**Masand**, C29:63 through C30:39, abstract; 'Knowledge acquisition mode' of applicant is equivalent to 'training data bases (TDB) of Masand. 'Added incrementally' of applicant is equivalent to 'piecemeal approach' of Masand. There are no parallel processors in Masand, thus all information is added incrementally. A 'classifier' of applicant is disclosed by the invention of Masand.), using the knowledge base, determines a predicted classification for the document. (**Masand**, C3:3-24; An example of a 'knowledge base' of applicant is equivalent to 'medical database' of Masand.)

Masand does not teach the classifier being switchable between the modes under user control for each document.

Mathias teaches the classifier being switchable between the modes under user control for each document. (**Mathias**, C4:24-58, or Fig. 1, item 129; 'Switchable between modes' of applicant is disclosed by a 'switch' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masand by being able to alter states as taught by Mathias to have the classifier being switchable between the modes under user control for each document.

For the purpose of to avoid over training and improve the speed of the classifier when not in training mode.

Masand teaches a router (**Masand**, C9:4-16) that routes the document to one of a plurality of destinations in dependence upon the classification (**Masand**, C7:1-25; 'Destinations in dependence upon the classification' of applicant depends upon the result of the 'cumulative comparison score' to a 'predetermined threshold score' of Masand.), and wherein the router compares the confidence value to a threshold, the router making at least one of an automatic routing decision and a manual routing decision in dependence upon the comparison (**Masand**, C23:66 through C24:44; 'Automatic routing decision' of applicant is equivalent to 'successfully attempted by the system, that is, for which the confidence score exceeds a selected threshold' of Masand. 'Manual routing' of applicant is equivalent to 'being rejected or, for example, referred to human experts' of Masand.), and wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing. (**Masand**, C23:66 through C24:44; 'Threshold is adjustable' of applicant is disclosed by being able to select a threshold of Masand.)

Masand and Mathias do not teach wherein at least one of a misrouted document.

Kamel teaches wherein at least one of a misrouted document. (**Kamel**, C29:66 through C30:4; The prevention of a misrouted document of applicant is equivalent to 'feedback system' to avoid misrouted messages.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand and Mathias by illustrating that documents can be misrouted as taught by Kamel to have wherein at least one of a misrouted document.

For the purpose of further describing corrective measures for the misrouted document.

Masand teaches is sent to a correct destination by a manual routing. (**Masand**, C23:66 through C24:9; 'Manual routing' is 'referred to human experts' of Masand.)

Masand does not teach the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted.

Mathias teaches the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted. (**Mathias**, Fig. 1; Mathias illustrates a 'feedback system' in which the switch 129 can be in the 'train' position. 'knowledge acquisition mode' of applicant is equivalent to 'train' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masand by being able to alter between executing and training modes as taught by Mathias to have the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted.

For the purpose of updating the knowledge database, thus reducing manual classification tasks.

Masand teaches wherein a rule insertion is performed in the knowledge acquisition mode in which a plurality of features are input by a user to the classifier together with a classification with which the features are associated. (**Masand**, C1:65 through C2:10, C29:63 through C30:39; An example of a 'Rule insertion' of applicant is equivalent to 'set of rules' and 'training data' of Masand.)

Claim 9

Masand teaches wherein one of the plurality of destinations is a system administrator workstation where the router is arranged to route the document for manual routing after the manual routing decision. (**Masand**, C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.)

Claim 13

Masand teaches wherein the destinations include a system administrator workstation to which the other destinations are connected. (**Masand**, C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.) Masand and Mathias do not teach misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing.

Kamel teaches misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing. (**Kamel**, C29:66 through C30:4; 'Misrouted documents being sendable' of applicant is illustrated by a 'loop feedback system' of Kamel.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand and Mathias by illustrating that documents can be misrouted as taught by Kamel to have misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing.

For the purpose of not losing documents which were first sent to the wrong destination.

Claim 14

Masand teaches wherein the system administrator (**Masand**, C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.) workstation is connected to the feature extractor. (**Masand**, abstract, 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.) and the classifier (**Masand**, abstract; A 'classifier' of applicant is disclosed by the invention of Masand.) Masand and Mathias do not teach the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation.

Kamel teaches the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation. (**Kamel**, C29:66 through C30:4; 'Misrouted documents being sendable' of applicant is illustrated by a 'loop feedback system' of Kamel.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand and Mathias by classifying misrouted documents by the system administrator as taught by Kamel to have the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation.

For the purpose of improving the knowledge system which reduces the system administrator's work load.

Masand teaches is processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base. (**Masand**, C1:65 through C2:10, C29:63 through C30:39; An example of a 'Knowledge acquisition mode' of applicant is equivalent to 'set of rules' and 'training data' of Masand.)

Claim 19

Masand teaches a feature extractor that extracts a plurality of features from a document (**Masand**, abstract, 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.); a classifier that processes the document based on the extracted features in one of a knowledge acquisition mode(**Masand**, abstract; A 'classifier' of applicant is disclosed by the invention of Masand.) or a document classification mode and outputs a predicted classification and a confidence value. (**Masand**, C23:66 through C24:44; 'Outputs a predicted classification' of applicant is equivalent to 'successfully attempted by the system, that is, for which the confidence score exceeds a selected threshold' of Masand. 'Manual routing' of applicant is equivalent to 'being rejected or, for example, referred to human experts' of Masand.)

Masand does not teach wherein the classifier is switchable between the knowledge acquisition mode or the document classification mode for each document based on user input.

Mathias teaches wherein the classifier is switchable between the-knowledge acquisition mode or the document classification mode for each document based on user

input. (**Mathias**, C4:24-58, or Fig. 1, item 129; 'Switchable between modes' of applicant is disclosed by a 'switch' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masand by being able to alter states as taught by Mathias to have wherein the classifier is switchable between the knowledge acquisition mode or the document classification mode for each document based on user input.

For the purpose of to avoid over training and improve the speed of the classifier when not in training mode.

Masand teaches a router that operates in one of an automatic or manual mode to route the document to at least one of a plurality of destinations, wherein the router mode is switched between the automatic mode or the manual mode based on a comparison of the confidence value to a threshold (**Masand**, C9:4-16), and wherein at least one of a misrouted document is sent to a correct destination by a manual routing. (**Masand**, C23:66 through C24:9; 'Manual routing' is 'referred to human experts' of Masand.)

Masand does not teach the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted.

Mathias teaches the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted. (**Mathias**, Fig. 1; Mathias illustrates a 'feedback system' in which the switch 129 can be in the 'train' position. 'knowledge acquisition mode' of applicant is equivalent to 'train' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masand by being able to alter between executing

and training modes as taught by Mathias to have the classifier being switched to the knowledge acquisition mode when a document has been determined to be misrouted.

For the purpose of updating the knowledge database, thus reducing manual classification tasks.

Masand teaches and wherein a rule insertion is performed in the knowledge acquisition mode in which a plurality of features are input by a user to the classifier together with a classification with which the features are associated. (**Masand**, C1:65 through C2:10, C29:63 through C30:39; An example of a 'Knowledge acquisition mode' of applicant is equivalent to 'set of rules' and 'training data' of Masand.)

Claim 20

Masand teaches wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing. (**Masand**, C23:66 through C24:44; 'Threshold is adjustable' of applicant is disclosed by being able to select a threshold of Masand.)

Claim 21

Masand teaches wherein the user is a system administrator workstation coupled to the feature extractor and the classifier. (**Masand**, C23:66 through C24:9, abstract; 'System administrator' of applicant is equivalent to 'human experts' of Masand. A 'classifier' of applicant is disclosed by the invention of Masand. 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.)

Claim 23

Masand does not teach wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification.

Mathias teaches wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification. (**Mathias**, C9:29-51; 'Administrator ... provide an actual classification' of applicant is equivalent to 'each evaluation image is typically provided by a human' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Masand by classifying misrouted documents as taught by Mathias to have wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification.

For the purpose of increasing the knowledge base to reduce manual classification by the system administrator.

Claim 24

Masand teaches wherein the classifier adds an association to the actual classification. (**Masand**, C29:63 through C30:39, abstract; 'Adds an association' of applicant is equivalent to 'piecemeal approach' of Masand.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, Mathias and Kamel in view of Tan ('Learning user profiles for personalized information dissemination', referred to as **Tan**)

Claim 2

Masand, Mathias and Kamel do not teach wherein the classifier comprises a supervised adaptive resonance theory (ART) system.

Tan teaches wherein the classifier comprises a supervised adaptive resonance theory (ART) system. (**Tan**, Abstract) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias and Kamel by using an ART system as taught by Tan to have wherein the classifier comprises a supervised adaptive resonance theory (ART) system.

For the purpose of having a system that performs incremental supervised learning of recognition categories and multidimensional maps for both binary and analog patterns.

Claim 4

Masand, Mathias and Kamel do not teach wherein the system comprises an adaptive resonance associative map (ARAM) system.

Tan teaches wherein the system comprises an adaptive resonance associative map (ARAM) system. (**Tan**, Abstract) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias and Kamel by using an ARAM system as taught by Tan to have wherein the system comprises an adaptive resonance associative map (ARAM) system.

For the purpose of providing a predicted classification for the output document in response to the input feature vector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

Art Unit: 2129

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, Mathias, Kamel and Tan in view of Tan2. ('Cascade ARTMAP: Integrating neural computation and symbolic knowledge processing', referred to as **Tan2**)

Claim 3

Masand, Mathias, Kamel and Tan do not teach wherein the system comprises an ARTMAP system.

Tan2 teaches wherein the system comprises an ARTMAP system. (**Tan2**, abstract) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias, Kamel and Tan by using an ARTMAP system as taught by Tan2 to have wherein the system comprises an ARTMAP system.

For the purpose of allowing incremental learning and rule insertion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Masand, Mathias and Kamel in view of Register. (U. S. Patent 5371807, referred to as **Register**)

Claim 10

Masand, Mathias and Kamel do not teach wherein the features are formed into a feature vector for input to the classifier.

Register teaches wherein the features are formed into a feature vector for input to the classifier. (**Register**, C8:60 through C9:23; 'Features' of applicant is equivalent to 'keywords' of Register. 'Feature vector' of applicant is equivalent to 'n-dimensional vector' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias and Kamel by putting information into vector form as taught by Register to have wherein the features are formed into a feature vector for input to the classifier.

For the purpose of having inputted data into a form which maps to a neural network well.

Claim 11

Masand, Mathias and Kamel do not teach wherein the features comprise at least one of classification-associated words and phrases which may appear in the document.

Register teaches wherein the features comprise at least one of classification-associated words and phrases which may appear in the document. (**Register**, C8:60 through C9:23; 'Features comprise ... classification-associated words' of applicant is equivalent to 'keywords' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias and Kamel by using keywords and phrases as taught by Register to have wherein the features comprise at least one of classification-associated words and phrases which may appear in the document.

For the purpose of narrowing the scope of the classification by using the classification-associated words and phrases.

Claim 12

Masand, Mathias and Kamel do not teach wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

Register teaches wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document. (**Register**, C8:60 through C9:23; 'Frequency' of applicant is equivalent to 'frequency' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Masand, Mathias and Kamel by using frequency as a measure as taught by Register to have wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

For the purpose of using the value of the frequency as a direct correlation towards a specific classification.

Response to Arguments

5. Applicant's arguments filed on December 05, 2007 for claims 1-4, 9-14, 19-21, 23-24 have been fully considered but are not persuasive.

6. In reference to the Applicant's argument:

REMARKS

Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Claim Rejections under 35 U.S.C. § 112, second paragraph

Art Unit: 2129

The Office Action rejects claims 1 and 19 under 35 U.S.C. § 112, second paragraph, as allegedly being incomplete for omitting essential steps.

Specifically, the Examiner asserted that it is unclear how the claimed invention determines when a document is misrouted. Furthermore, the Examiner argues that it is not apparent how the claimed invention determines when to switch modes, and how these two functions of the claimed invention are related. In response, Applicants will address the Examiner's questions by explaining how the claim elements of the claimed invention relate to one another, and how these relationships are described in the claims. The following discussion will be provided with respect to claim 1, as the elements of claim 19 are similar to those of claim 1.

Initially, Applicants note that the claimed invention utilizes a "confidence value," which classifies or identifies a document that falls below the user-specified confidence threshold required for automatic routing of said document.¹ A classification confidence value that falls below the confidence threshold implies a level of likelihood has been reached in which the automatic routing of the document would produce a classification which a human user would deem as wrong.

This level of likelihood represents some subjective (and possibly non-quantitative) user perspective above which the experienced rate of document misclassification (as deemed by the user) would reach a level that the user would deem unacceptable. Under such circumstances of low classification confidence, the claimed invention would direct the document to the administrator workstation, whereupon the human administrator makes a decision as to the actual classification of the document.

Examiner's response:

The applicant states that the invention would take a document with a low confidence rating and direct the document to the administrator which makes a decision as to the actual classification of the document. This does not follow claim 1. Claim 1 states that when a document is presented, information is extracted and classifies the document, which in turn adds this information by 'knowledge acquisition mode' to a knowledge base. Claim 1 continues by stating that depending on the comparison between the confidence rating and a threshold, which in turn allows the router to automatic route and manual route the document. The claim is not clear if both of these

Art Unit: 2129

occur when the document is either above or below the threshold level. Or does automatic routing occur when the confidence level is above the threshold and manual routing occur when the confidence level is below the threshold. This inconsistency between the claims and the applicant's arguments raise the issue of omitting essential steps.

7. In reference to the Applicant's argument:

The actual event of the administrator confirming (via the administrator workstation) his decision on the actual classification of the low confidence document represents an explicit signal that can be communicated from the administrator workstation to the claimed invention to indicate that it should switch mode.

Accordingly, Applicants submit that the features of the claimed invention, discussed above, are explicitly described in various aspects of the claims, including (but not limited to) the classifier and router elements recited in claim 1. Thus, Applicants submit that the claims sufficiently describe how the elements of the claims are interrelated, and are not incomplete or omitting essential steps. Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, second paragraph, rejections of claims 1 and 19.

Examiner's response:

In claim 1 the invention starts out in 'knowledge acquisition mode' and in the end of the claim the statement 'the classifier being switched to the knowledge acquisition mode.' Somewhere between the classifier in 'knowledge acquisition mode' and 'the classifier being switched to the knowledge acquisition mode' the invention was switched to something other than 'knowledge acquisition mode.' This inconsistency between the claims and the applicant's arguments raise the issue of omitting essential steps.

Art Unit: 2129

8. In reference to the Applicant's argument:

For example, the Examiner argues that the recitation "added incrementally" in claim 1 is equivalent to the "piecemeal approach" disclosed in MASAND (see page 4, lines 6-7, of the outstanding Office Action). Applicants submit that these features are not comparable or analogous to one another. The claimed invention is based upon an AI-based (specifically, neural network-based) learning algorithm. Traditionally, such algorithms have difficulty training on a supplementary set of training documents after having completed training on some original training document set. This is due in part to the process of generalization involved in AI-based learning algorithms. As discussed in the present specification, "incremental learning of new cases does not require re-learning of previous cases, thus eliminating the need to preserve past cases for re-learning" (see, e.g., page 3, lines 21-22 in the specification).

Examiner's response:

The Examiner disagrees, "added incrementally" in claim 1 is equivalent to the "piecemeal approach" disclosed in MASAND.

9. In reference to the Applicant's argument:

The claimed invention preserves past cases, while the method disclosed in MASAND involves no tangible generalization of the training data, as explicitly described in MASAND (see, e.g., MASAND, col. 29, line 39, to col. 30, line 39; specifically, col. 30, lines 6-21).

Therefore, because MASAND does not perform generalization, used in learning algorithms, the "piecemeal approach" to construction of the training database does not teach or even suggest "association of a classification with each document...added incrementally to a knowledge base," as recited in the claims.

Examiner's response:

The claims do not state 'preserves past cases.' The reduction of duplicates is one method for constructing a training database.

10. In reference to the Applicant's argument:

Furthermore, the Examiner asserts that "there are no parallel processors in MASAND, thus all information is added incrementally" (see page 4, lines 7-8, of the Office Action). Applicants question the factual basis of this statement. Throughout MASAND, references are made as to the parallel nature of the processing by MASAND. For example, in column 8, line 4, of MASAND, MASAND refers to a "data parallel system" in Figure 1. This is directly contrary to the Examiner's assertion that "there are no parallel processors in MASAND," which further calls into question the Examiner's assertion that information in MASAND is added incrementally.

Examiner's response:

If the applicant questions the factual basis that parallel processor do not support non-incrementally information additions, the applicant is thus supporting the Examiner's argument and MASAND does add information by increments.

11. In reference to the Applicant's argument:

In addition, Applicants note that the Office Action asserts that the "knowledge base" in the claimed invention is equivalent to the "set of rules" disclosed in MASAND (see, e.g., page 4, lines 10-11, of the outstanding Office Action). In response, Applicants note that MASAND does not use rules. On the contrary, the example of rule-based reasoning systems in MASAND is used as an illustration of the disadvantages of rule-based systems and to demonstrate MASAND's supposed superiority over rule-based systems. Thus, based on the characterization of rule based systems in MASAND, one skilled in the art would presume that MASAND actually teaches away from rule based systems.

Examiner's response:

An example of 'knowledge base' of applicant is equivalent to 'medical database' of MASAND.

12. In reference to the Applicant's argument:

Furthermore, the Examiner asserts that "MASAND teaches a router" to support his contention that MASAND discloses the claimed router (MASAND, col. 9, lines 4-16) that "routes the document to one of a plurality of destinations in dependence upon the classification..." (see, e.g., page 5, line 1, of the Office Action). However, the "router" discussed in MASAND is a hardware device that is part of the parallel system architecture of MASAND which is responsible for directing signals between the multiple "Processor Elements" that are running in parallel in MASAND. Therefore, the "router" in MASAND does not relate to routing documents upon classification, as described in the claimed invention. Therefore, MASAND fails to disclose yet another technical feature of the claimed invention.

Examiner's response:

A router directs information in the form of packets, and a document can be converted to packets. Router of applicant is equivalent to router of MASAND.

13. In reference to the Applicant's argument:

Furthermore, the Examiner incorrectly assumes that "[t]he prevention of a misrouted document of applicant is equivalent to 'feedback system' to avoid misrouted messages," as discussed on page 5, lines 18-19, of the outstanding Office Action. A feedback system, such as that disclosed in KAMEL, is essentially a delivery-and-acknowledgement process involving a sender sending a message or object to the intended recipient of that message or object and the recipient acknowledge receipt of that message or object. Applicants submit that the manual routing in the claimed invention is more similar to a referral process. The human administrator interacting in the claimed invention is not the intended recipient of the document sent by the system, but rather acts as a "higher authority" with which the system consults when in doubt (i.e., when the confidence level does not satisfy the minimum threshold). Thus, KAMEL fails to disclose or suggest this element of the claimed invention.

Examiner's response:

Kamel is not used as an only reference to claim 1 but is used in combination with other references. Kamel is used to disclose a queue of misrouted documents.

14. In reference to the Applicant's argument:

Lastly, Applicants note that the Examiner argues that KAMEL teaches the elements of claim 13 because KAMEL is allegedly directed to "the purpose of not losing documents which were first sent to the wrong destination" (the discussion of claim 13 on page 7 of the outstanding Office Action). The misrouted messages in KAMEL can not properly be equated with the concept of misclassified documents in the claimed invention.

In KAMEL, misrouted messages are like correctly addressed letters that have been delivered to the wrong address, where the recipient of the letter returns the letter to the post office and the letter is resent to the intended address. KAMEL is not directed to or applicable to a situation where the address is added to a letter with only a name specified (i.e., the input feature), and the letter is delivered to the correct address, but there is no such recipient at the address. Therefore, Applicants submit that the misrouted messages in KAMEL are not equivalent to the misclassified documents in the claimed invention. KAMEL is directed to solving a different problem than the claimed invention, and, therefore, uses a different solution to solve these problems. Because the teachings of KAMEL can not be properly applied in a manner that would allow one skilled in the art to handle misclassified documents (as in the claimed invention), Applicants submit that KAMEL fails to teach or suggest all of the elements of the claimed invention.

Examiner's response:

The applicant makes the argument that 'misrouted messages in KAMEL can not properly be equated with the concept of misclassified documents.' The Examiner disagrees, if a document is misclassified, then it will be improperly routed. The applicant continues the argument by stating, 'misrouted messages are like correctly addressed

letters that have been delivered to the wrong address, where the recipient of the letter returns the letter to the post office and the letter is resent to the intended address.’ The Examiner does not follow this argument due to the fact the router will not deliver a document with a correct address to an incorrect address.

Examination Considerations

15. The claims and only the claims form the metes and bounds of the invention. “Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)” (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

16. Examiner’s Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and

Art Unit: 2129

unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

17. Examiner's Opinion: Paragraphs 15 and 16 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2129

19. Claims 1-4, 9-14, 19-21, 23-24 are rejected.

Correspondence Information

20. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

Art Unit: 2129

(571) 272-3150 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/P. C./

Examiner, Art Unit 2129

Peter Coughlan

2/13/2008

/Joseph P. Hirl/

Primary Examiner, Art Unit 2129